REMARKS

Upon entry of the present amendment, claims 1-5, 10-11, and 14-25 are pending in the Application. Claim 11 has been amended to require a nonionic hydrophilic functional group. Claim 12 has been amended as discussed in section 2 below. Claims 19 and 26 have been amended to correct formatting. No new matter has been introduced by these amendments.

1. Allowable Subject Matter.

Applicants appreciate the Examiner's indication of allowability regarding claims 6-9, 13, and 26.

2. Claim Objection.

Claim 12 is objected to because of the use of the phrase "can be prepared", but would be otherwise allowable. Applicants appreciate the Examiner's indication of allowability once the objection is overcome. Claim 12 has been amended to replace "which can be." Withdrawal of the objection is respectfully requested.

3. Rejection of claims 1-2, 4-5, 10-11, 14-18, and 22-25 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,589,324 to Kamo et al., hereafter "Kamo".

Independent claim 1 is directed to an aqueous dispersion comprising (A) at least one swellable polymer and/or oligomer comprising at least one functional group that is at least one of an anionic functional group, a potentially anionic functional group, and/or a nonionic hydrophilic functional group, (B) surface-modified, cationically stabilized, inorganic nanoparticles of at least one kind and (C) at least one amphiphile,
wherein the dispersion has a pH of from 2 to 7.

Kamo teaches a chromium-free agent for treating metallic surface comprising (i) at least one of (A) a mixture of an aluminum salt and an inorganic oxide particle and (B) an aluminum containing inorganic oxide particle comprising aluminum, oxygen and at least one element other than these two, (ii) a salt of a metal other than aluminum, (iii) a phosphorus compound, and (iv) a resin and/or a precursor thereof (Kamo, abstract.) Acrylic resin, polyester resin, epoxy resin, acryl-epoxy resin, acryl-modified polyester

resin, epoxy-modified polyester resin, urethane-modified polyester resin, acryl-modified polyurethane resin and acryl-modified polyester polyurethane resin are preferable (Kamo, column 7, lines 43-47.)

The Examiner states:

> "The prior art does not (a) exemplify coating agents comprising all at least one swellable polymer and/or oligomer with ionic or potentially ionic groups, surface modified and cationically stabilized inorganic particles and an amphiphile. The prior art discloses a resin comprising hydroxyl and/or carboxyl groups, water compatible solvents such as propanol and isopropanol, a pH of 1.5-3.5 and inorganic oxide nanoparticles surface treated with an aluminum compound. In light of the prior art teachings, it would have been obvious to a skilled artisan to include the various components and thereby arrive at the presently cited claims."

(6/18/2007 Office Action, page 4.)

Applicants appreciate the detailed basis of rejection but must respectfully disagree. The Examiner concedes that Kamo does not disclose all the elements of instant independent claim 1, however the Examiner asserts that in light of the prior art teachings, it would have been obvious to a skilled artisan to include the various components and thereby arrive at the presently cited claims, because Kamo discloses a resin comprising hydroxyl and/or carboxyl groups, water compatible solvents such as propanol and isopropanol, a pH of 1.5-3.5 and inorganic oxide nanoparticles surface treated with an aluminum compound.

To establish a prima facie case of obviousness, three basic criteria must be met: (1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) There must be a reasonable expectation of success; and (3) the prior art reference (or combined references) must teach or suggest all limitations of the claim(s); MPEP 2143.

Applicants respectfully assert that Kamo does not teach or suggest all of the claim limitations, as is conceded by the Examiner. Independent claim 1 is directed to an aqueous dispersion comprising at least one swellable polymer and/or oligomer. The swellable polymers and/or oligomers are disclosed in Applicants' specification to comprise anionic and/or potentially anionic functional groups, the amount of which is

determined in a way to ensure the swellability of the polymers and oligomers in aqueous media with a pH of 2 to 7. This corresponds to an acid number of 5 to 70 mg KOH/g (Application as filed, page 11, lines 10-24.) Kamo is silent regarding the swellability of the resins, and there is no teaching or suggestion in Kamo to use swellable polymers and/or oligomers.

In addition, Applicants respectfully assert that modifying Kamo as suggested by the Examiner is improper because it destroys the intended function of Kamo. In this regard, the courts have held that "[i]f the proposed modification would render the prior art invention being modified unsatisfactorily for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon* 733 F. 2d 900, 221 USPQ 1125 (Fed. Cir. 1984). The courts have also held that '[i]f the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.'" *In re Ratti* 270 F. 2d 810, 123 USPQ 349 (CCPA 1959).

Kamo requires a phosphorous compound as a component of the agent for treating metallic surfaces. When the phosphorous compound is not present, the result is a coating with poor corrosion resistance. This is exemplified in Kamo's examples. Kamo's example 1 and comparative example 1 both disclose a similar composition, with the exception that comparative example 1 lacks the manganese phosphate (Kamo, column 6, lines 17-24, and column 27, lines 45-52.) Example 1 displays favorable corrosion resistance, whereas comparative example 1 displays poor corrosion resistance (Kamo, Table 1.) Applicants, on the other hand, while they do not exclude the presence of a phosphorus compound, do not require it. Applicants disclose that the multicoat paint systems of the invention have an outstanding profile of properties which is very well balanced in terms of mechanics, optics, corrosion resistance, and adhesion (Applications as filed, page 27, paragraph [0135], emphasis added.) Applicants' Example 1 discloses a composition that does not comprise a phosphorous compound, according to the claimed invention (Application as filed, page 30, paragraph [0169], to page 32, paragraph [0179].) The composition displays favorable characteristics.

Therefore, Applicants respectfully assert that not requiring the phosphorus compound in Kamo would render Kamo unsatisfactory for its intended purpose, and thus Kamo does not suggest or motivate to make the proposed modification.

Applicants further assert that Kamo teaches away from Applicants' claims. As discussed above, Kamo requires a phosphorous compound and teaches away from excluding the same, whereas Applicants claimed invention does not require a phosphorous compound, as is seen from Applicants' Example 1 discussed above.

Thus, there is no motivation or teaching to modify Kamo to arrive at Applicants' claims, there is no expectation of success in doing so, and Kamo does not teach or suggest all the elements of the independent claims. And further, modifying Kamo as suggested by the Examiner destroys its intended purpose. As such, a prima facie case of obviousness is not established by the Examiner. Withdrawal of the rejection of claims 1-2, 4-5, 10-11, 14-18, and 22-25 under 35 U.S.C. §103(a) as being unpatentable over Kamo is respectfully requested.

4. Rejection of claims 1-5, 10-11, and 14-25 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,599,631 to Kambe et al., hereafter "Kambe".

Kambe teaches inorganic particle/polymer composites that involve chemical bonding between the elements of the composite (Kambe, abstract.)

In making the rejection, the Examiner states:

> "The prior art teaches that for compatibility and formation of well dispersed particles, hydrophobic inorganic particles can be dispersed in nonaqueous solvents or aqueous solvents with less polar cosolvents (col. 19, lines 48-51). Given this teaching, and given that the dispersants may be selected from water or mixtures of water and alcohol, it would have been obvious to one of ordinary skill in the art to include amphiphiles, which are essentially less polar cosolvents than water, and thereby arrive at the presently cited claims."

(6/18/2007 Office Action, pages 5-6.)

Applicants appreciate the detailed basis of rejection but must respectfully disagree. To establish a prima facie case of obviousness, three basic criteria must be met: (1) There must be some suggestion or motivation, either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) There must be a reasonable expectation of success; and (3) the prior art reference (or combined references) must teach or suggest all limitations of the claim(s); MPEP 2143.

The Examiner concedes that Kambe does not teach or suggest all the claim limitations by stating:

> "The prior art is silent with regard to the use of amphiphiles in the compositions."

(6/18/2007 Office Action, page 5.)

Applicants respectfully assert that not only does Kambe not teach or suggest all the instant claim limitations, but in addition there is no suggestion or motivation to modify Kambe as suggested by the Examiner, nor is there a reasonable expectation of success in so doing for at least two reasons.

First, Applicants require an aqueous dispersion, and thus, there would be no motivation to use an organic cosolvent. Applicants disclose that in the dispersion of the invention, the amphiphiles (C) are preferably present in an amount of from 1 to 10% by weight (Application as filed, page 22, paragraph [103].) However, Kambe teaches that the hydrophobic particles can be dispersed in nonaqueous solvent, or aqueous solutions with less polar cosolvents (Kambe, column 19, lines 46-51.) Since the particles Kambe refers to are hydrophobic, it is generally understood in the art that "like, best dissolves like", that is, the character of the dispersant should be relatively hydrophobic in order to disperse hydrophobic particles, and thus such a solution of aqueous solvent and organic cosolvent would comprise a substantial amount of cosolvent, which would be substantially greater than 10% by weight.

Second, Applicants' nanoparticles are required to be cationically stabilized. It is generally understood that cationic species exhibit hydrophilic character due to the interaction with the highly polar water molecule. Applicants' particles would not be construed as hydrophobic, and since Kambe teaches that hydrophilic particles can be dispersed in aqueous solvent (Kambe, column 19, lines 50-51) and reserves the teaching of cosolvents for hydrophobic particles, one with ordinary skill in the art would

not be motivated to use a cosolvent since Applicants' particles would not be construed as hydrophobic.

Thus, Applicants respectfully assert that a prima facie case of obviousness has not been established by the Examiner because Kambe does not teach or suggest all the elements of the instant claims as conceded by the Examiner, and further because there is no suggestion or motivation in Kambe, nor is there a reasonable expectation of success to modify Kambe to arrive at Applicants claims. Specifically, there is no suggestion, motivation, or expectation of success to modify Kambe to use an amphiphile.

In view of the above, Applicants respectful request the withdrawal of the rejection of claims 1-5, 10-11, and 14-25 under 35 U.S.C. §103(a) as being unpatentable over Kambe.

CONCLUSION

Applicants respectfully submit that the Application and pending claims are patentable in view of the foregoing amendments and/or remarks. A Notice of Allowance is respectfully requested. As always, the Examiner is encouraged to contact the Undersigned by telephone if direct conversation would be helpful.

Respectfully Submitted,

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